5th Quarterly Report

Progress on Year 2000 Conversion

U.S. Office of Management and Budget

As of May 15, 1998

EXECUTIVE SUMMARY

Addressing the year 2000 computer problem is a substantial challenge to the Federal government. Overall, the Federal government continues to make progress in addressing the year 2000 problem -- but the rate for some agencies is still not fast enough. President Clinton has taken action to accelerate agencies' efforts by discussing the issue with his Cabinet and establishing a year 2000 conversion council of senior executives from key Federal agencies.

As of May 15, 1998, Federal agencies identified 7,336 mission-critical systems. That number is 514 fewer than were reported in February as senior Federal managers have reevaluated which systems are critical to their organizations' missions and set priorities within their organizations. Of those mission-critical systems, 40 percent are now year 2000 compliant (compared to 35 percent that were reported compliant in February), 42 percent are being repaired, 14 percent are

being replaced, and 4 percent are being retired. Of the systems being repaired, Federal agencies have completed renovation of 55 percent of them and have fully implemented 27 percent. Agencies now estimate they will spend $5.0 billion fixing the problem in Federal systems. Through independent verification and validation efforts, agencies are reducing the risk of failure of their mission critical systems that are being fixed. They are also beginning to develop plans to assure continuity of their functions in instances where system failures are possible.

The Federal agencies are coordinating their efforts and making progress government-wide in such areas as buildings systems, telecommunications, and bio-medical devices and laboratory equipment. In addition, the agencies are proactively working with their data exchange partners to coordinate work on assuring that year 2000 problems with exchanged data are addressed on time.

Nine agencies are identified in the report as making adequate progress on year 200; nine are identified as making progress, but with concerns; and six are identified as not making adequate progress. OMB will ask the 15 agencies that are either not making adequate progress or about which there are concerns to provide their monthly schedule for completion of year 2000 repairs for all mission critical systems. Agencies will update their status against that schedule each month. Also, for the six agencies not making adequate progress, the Chair of the Year 2000 Conversion Council will attend each agency's monthly year 2000 briefings for senior agency officials in order to assist these agencies in managing the problem.

Six agencies have identified systems that are either behind schedule or that will miss the March 31, 1999 implementation deadline. OMB will ask for more detailed information on the contingency plans for those systems, as well as on the continuity of business planning for the organizations as a whole.

OMB asked 41 small and independent agencies to report on their progress for the first time this quarter. A brief summary of each agency that reported is included in the report. OMB will ask 10 of those agencies to begin to report their progress quarterly.

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I. INTRODUCTION

This report is the fifth in a series of quarterly summary reports to Congress on the Administration's progress in fixing the year 2000 computer problem ("Y2K") in Federal systems. It outlines the continuing work to avert the problems that could occur if systems are not able to correctly process the year 2000. This report summarizes information received from the 24 agencies that serve on the Federal Chief Information Officers' (CIO) Council and describes the status of government-wide activities underway. OMB sends these reports to the Congress on or before the 15th of March, June, September, and December. For this report, information on the status of selected small and independent agencies has also been included. This report and all previous reports are available on the Federal Chief Information Officers' home page (http://cio.gov).

The Administration has taken several significant steps during the last quarter. In addition to providing support to agencies as they work to fix their own systems, the President's Council on Year 2000 Conversion, which began operations in March and is chaired by John Koskinen, has initiated efforts to increase awareness of the problem beyond the Federal Government. Under the Council's direction, agencies are reaching out to private sector organizations, State and local governments, and international institutions in their policy areas and are participating on Council working groups to address year 2000 activities in key infrastructure areas including energy, telecommunications, and financial institutions. These working groups have met, and will continue to meet, with industry representatives in these areas to facilitate and coordinate information sharing on year 2000 progress and possible solutions across business lines.

In addition, for this quarter, OMB collected information from selected small and independent agencies on their year 2000 progress for this report. A summary of the responses to those requests is included in this report under the heading, "Status of Small and Independent Agencies." OMB will continue to collect information from these agencies.

OMB's initial Y2K report, entitled "Getting Federal Computers Ready for the Year 2000," was transmitted February 6, 1997. The report outlined the Federal government's strategy to address the Y2K problem in its systems, one that remains predicated on agency accountability. To assist in that effort, OMB is requiring agencies to report quarterly on their progress on the fifteenth of

February, May, August, and November for each year until 2000. This report summarizes the agencies' progress based on the agency reports sent to OMB on May 15, 1998, and describes other actions being taken to assure success. It also responds to requests for information contained in House Report 105-240 and Senate Report 105-49.

The Federal government's strategy is based on the five phases of the best practices for addressing the problem: awareness, assessment, renovation, validation, and implementation. Working with the CIO Council, OMB has set government-wide milestones for the completion of work in each of the phases. Agencies have established plans to complete the work in each phase. The five phases overlap -- for example, validation of some systems can begin while renovation of others continues.

II. SUMMARY OF GOVERNMENT-WIDE PROGRESS

This summary report shows that:

- Virtually all agencies have adopted accelerated schedules for the completion of their Y2K work. While three agencies' schedules (Energy, HHS, and AID) are behind the government-wide milestones, several agencies' schedules are in advance of these milestones (Justice, Treasury, OPM, SBA, GSA, and SSA).

- Agencies now identify 7,336 mission critical systems, which is less than the 7,850 identified in the February report. This change results principally because of senior management decisions that certain systems were not mission critical and therefore are a lower priority.

- Of the 7,336 mission critical systems, 2,913 (40 percent) are now year 2000 compliant, compared to 35 percent in the previous report. This includes systems repaired, replaced, and those that were already compliant.

- Of the 7,336 mission critical systems, 3,117 (42 percent) are still being repaired; 1,020 (14 percent) are still being replaced; and 286 (4 percent) will be retired.

- Of those systems that have been or will be repaired, the government-wide average for completion of renovation is 55 percent, while validation is 32 percent complete and implementation is 27 percent complete.

- Agencies now estimate they will spend $5.0 billion fixing the problem from fiscal year 1996 through fiscal year 2000, a slight increase from $4.7 billion in the previous report. At this time, we believe the increased costs for fiscal year 1999 can be met within existing agency requests. These estimates cover the costs of identifying necessary changes, evaluating the cost effectiveness of making those changes (fix or scrap decisions), making changes, testing systems, and preparing contingencies for failure recovery. They include the costs for fixing both mission critical and non-mission critical systems, as well non-information technology products and systems such as air conditioning and heating. They do not include the costs of upgrades or replacements that would otherwise occur as part of the normal systems life cycle. They also do not include

the Federal share of the costs for state information systems that support Federal programs. In the event that additional year 2000 requirements are identified, the President's FY 1999 Budget contained an allowance to pay for emergencies, including unforseen Defense and non-Defense costs, natural disasters, and unanticipated, non-emergency expenses of the year 2000 conversion. OMB expects that future quarterly reports will continue to refine cost estimates as agencies gain more experience about how much it costs to renovate, validate, and implement their systems.

These figures do not include the information reported by the small and independent agencies. A summary of the status of these agencies is provided in the table in the section entitled, "Status of Small and Independent Agencies."

Evaluation of Progress

Overall, the Federal government continues to make progress in addressing the year 2000 problem -- but the rate for some agencies is still not fast enough. OMB has categorized agencies into one of three tiers based on evidence of progress in their reports. Tier 1 comprises agencies where there is insufficient evidence of adequate progress. For agencies in Tier 2, OMB sees evidence of progress, but also has concerns. The remaining nine agencies in Tier 3 are making satisfactory progress.

Although 71 percent of the systems in Tier 3 are compliant, only 31 percent of the systems of the Tier 1 agencies are compliant. It is critical that those agencies most at risk devote more management attention to the problem in order to ensure that solving the year 2000 problem is the agency's highest information technology priority. The following table provides detail on the progress of the agencies by tier.

Government-wide Summary -- Year 2000 Status

Mission-Critical Systems

Agency Status	All Systems	Systems Being Renovated	
	Y2K Compliant*	Renovation Complete*	Implementation Complete*
Tier Three (VA, EPA, FEMA, GSA, NASA, NRC, NSF, SBA, SSA)	71%	79%	65%
Tier Two (Agriculture, Commerce, HUD, Interior, Justice, Labor, State, Treasury, OPM)	45%	55%	34%
Tier One (Defense, Education, Energy, HHS, Transportation, AID)	31%	50%	16%
All Agencies	40%	55%	27%

*"Y2K Compliant" means that the system will accurately process data through the century change. "Renovation complete" means that necessary changes to a system's databases and/or software have been made. "Implementation Complete" means that the system has been tested for compliance and has been integrated into the system environment where the agency performs its routine information processing activities. For more information on definitions, see GAO/AIMD-10.1.14, "Year 2000 Computing Crisis: An Assessment Guide," September 1997, available at http://cio.gov under Year 2000 Documents.

To improve on this progress, the Administration is taking several additional steps. First, the Chair of the President's Council on Year 2000 Conversion will attend the monthly briefings for the senior management of all Tier 1 Cabinet agencies in order to assist these agencies in managing the problem. Second, all agencies that are rated as Tier 1 or Tier 2 will be required to provide to OMB their monthly benchmarks for renovation, validation, and implementation of systems necessary to meet the government-wide milestones. These agencies will also be asked to provide to OMB a monthly chart reporting on their progress against these benchmarks. The first monthly reports will be due to OMB on Friday, June 26. Updates will be due August 1 and the first of each month thereafter. OMB's next quarterly report will provide summary information based on those progress reports. Third, OMB will require agencies to provide more detailed information on contingency planning for those systems that are expected to miss the March 1999 deadline for implementation, as well as on their continuity of business plans as a whole.

III. GOVERNMENT-WIDE ISSUES Accelerated Goals

In January 1998, OMB and the CIO Council set accelerated government-wide goals for the completion of renovation, validation, and implementation. The goals are completion of renovation by September 1998, completion of validation by January 1999, and completion of implementation by March 1999. Four agencies, the Departments of Transportation, Justice, Health and Human Services, and Treasury, report that they have not completed their assessments. The Department of Energy reported that it will complete validation by February 1999, but plans to complete implementation on schedule. All other agencies' schedules are consistent with the government-wide goals. Seven Departments (the Departments of Agriculture, Defense, Health and Human Services, Interior, Transportation, Treasury, and State) report they have systems that will not be implemented by March 31, 1999, or systems that are behind schedule. These Departments also described the steps they are taking to develop contingency plans. A discussion of systems is included at the end of the report.

Non-Information Technology Systems/ Embedded Chips

Many products or systems, such as diagnostic equipment, security systems, elevators, or heating and air conditioning systems, contain embedded chips. Frequently, these chips include a date function that helps run the system -- for example, to time maintenance procedures or to regulate temperature. If this date function is not year 2000 compliant, then the chip may not work. Although all agencies indicated that they are making progress in this area, and many are fixing such products, others still need to complete their assessments. In areas where affected products are widely used, OMB has established government-wide working groups. (More information is provided under "Government-wide Areas.")

Telecommunications Networks

All agencies indicated that they have begun their assessments of their telecommunications systems. Many indicated that they are making progress on ensuring that their telecommunications systems will be ready for the year 2000. In most cases, agencies must work with vendors to receive system upgrades and are somewhat dependent on these vendors in terms of timing. GSA also chairs a working group that is working with vendors government-wide to ensure readiness. (More information is provided under "Government-wide Areas.")

Non-mission-critical Systems

All agencies reported that they completed or nearly completed their assessments of non-mission critical systems. By definition, such systems are less critical to the functioning of the agencies, but many are still important. All of the agencies reported they have an active program to fix these systems, albeit as a lower priority.

Independent Verification and Validation (IV&V)

Because the year 2000 problem is so widespread, it is unlikely that immediate assistance will be available to organizations if they have a problem in January 2000. Therefore, it is essential that

managers take every action possible now to identify and fix any problems that could occur, particularly as they may affect mission critical systems. Independent validation and verification assists senior management by providing a double-check that their mission critical systems will be ready. All large agencies have independent verification programs underway for that reason. These activities are paying off as some agency systems, which were considered compliant, have been found not to be, allowing sufficient time for management to take action.

It is essential that accurate information be reported to senior management in a timely manner, so that they can take appropriate action. Agency Inspectors General have been helpful to senior management in this regard as well. They have, for example, taken an active role in verifying the accuracy of reports to senior agency management and reports to OMB and the Congress.

Business Contingency Planning

Overall, the agencies need to focus more attention on contingency planning for systems that are at risk of not meeting the March 1999 deadline for implementation. In addition, all agencies, regardless of the status of their systems, should be developing continuity of business plans. Such plans should address, in addition to an agency's internal systems, implications of the year 2000 problem that are outside of the agency's control, such as the inability of suppliers to provide products to the agency or the loss of critical infrastructure. These continuity of business plans will be a primary activity in Federal agencies between now and the year 2000. Most Federal agencies are just beginning to prepare them. To assist in this effort, the CIO Council's Year 2000 Committee, working with the General Accounting Office, is developing guidance on such planning. The Social Security Administration recently completed its plan. That plan was circulated to the other Federal agencies as a model and will be reflected in the CIO Council's guidance.

Data Exchanges with States and Other Partners

Federal agencies exchange data with each other; with foreign, State, and local governments; and with private entities. Of particular importance are data exchanges with the States, because States operate many important Federal programs. To help assure that these exchanges are Y2K compliant, the CIO Council is working with the National Association of State Information Resource Executives (NASIRE) to specifically focus on the exchanges between the Federal government and State governments. All agencies have inventoried their data exchanges and initiated discussions with their data exchange partners regarding both the format of their data exchanges and the timing of making fixes to the data exchanges.

In addition, on May 19, 1998, OMB issued instructions to the agencies on reporting the status of their year 2000 fixes to their data exchanges with the States. The General Services Administration (GSA) will provide a format to Federal agencies for them to provide an electronic report on the status of data exchanges. The status of each data exchange will be broken down by State and must be shown as one of four categories: (1) compliant and successfully tested by both parties; (2) successfully bridged with both parties concurring in the format; (3) Federal side ready but not yet tested; and, (4) not yet compliant or testing still in progress. In July, agencies will provide their first submissions of this information to GSA. This information

will be updated on a monthly basis.

Other Government-wide Areas

OMB has identified and is working on three government-wide areas where the Y2K problem occurs in other than computer systems: telecommunications; bio-medical devices and laboratory equipment; and buildings. In these areas, the problem occurs in commercial products that rely on computers or have computer chips inside them; the problem needs to be fixed by the manufacturers of those products. OMB has established interagency working groups, each chaired by a key program agency, to raise awareness and to work with manufacturers to assure that products are fixed. Each group is contacting vendors on behalf of the entire Federal government, performing tests to verify compliance, and sharing information through electronic databases.

The Telecommunications Working Group

Government, like the private sector, is reliant upon commercial vendors and the information they supply to address the compliance of their telecommunications systems. GSA owns, manages, or resells consolidated telecommunications services to Federal agencies throughout the United States. The Telecommunications Working Group is chaired by the Federal Telecommunications Service (FTS) of the GSA.

The Telecommunications Working Group is working with industry to ensure that the telecommunications services and systems provided to the Federal government are year 2000 compliant. As vendors continually evaluate the year 2000 status of products, agency year 2000 plans, schedules, budgets, and deadlines continue to evolve. Through special interest groups for testing telecommunications equipment, the Working Group is learning more about compliant and non-compliant telecommunications products. Inventory data has been added to a government-wide database of agency information. This database is available for vendors to post the status of their products at **http://y2k.fts.gsa.gov**. The Working Group has been leading discussions with vendors and has received positive responses from the major telecommunication providers and manufacturers. The Working Group is also investigating how the Federal government can participate in testing of certain critical systems.

GSA is using a two-fold approach to ensuring that the Federal government's local telecommunications services will be year 2000 compliant. First, as a reseller of service using Government wide-owned Private Branch Exchange (PBX) equipment, GSA has direct control over the equipment. At this point, testing has shown that 90 percent of the PBXs owned by GSA are already compliant. For the remaining 10 percent, manufacturers have indicated that they will provide upgrade solutions. Second, as a reseller of service using Central Exchange (CENTREX) service obtained from Local Exchange Carriers (LECs), GSA has limited authority or leverage over the internal networks of these carriers. Currently, there are 247 CENTREX systems which are wholly owned, managed, and maintained by LECs, but which sell service to the Federal government. The Federal government has designated GSA regional points of contact and instructed them to contact their respective LEC service providers and request information on the year 2000 status for the CENTREX service they receive. This information will then be provided to other Federal agency users.

The Biomedical and Laboratory Equipment Working Group

The Biomedical Equipment Working Group is chaired by the Department of Health and Human Services. On January 21, 1998, the HHS Deputy Secretary wrote to over 16,000 manufacturers of biomedical devices and laboratory equipment, asking them to verify the compliance of their products. Responses were due to the Food and Drug Administration (FDA) on March 23, 1998. As of May 1, the FDA had received approximately 1,600 responses. Many of these responses were from companies that manufacture no electronic equipment and for which developing a response was easy. The information received is being posted to a public web site at **http://www.fda.gov/cdrh/yr2000**. The FDA must aggressively pursue responses from the remaining equipment manufacturers.

The web site contains information about products that are compliant as well as information about products that are not. For those that are not compliant, it also provides detailed information as to how it is not compliant, and most importantly, the solutions that the manufacturer will offer to mitigate the problem, such as software updates, along with the date on which a compliant product will be available.

The overall response has been limited, indicating a possible lack of awareness or even denial of the problem in this industry. On the other hand, those who have responded have thanked the Working Group for providing them with an easy way to publicize the compliance of their products. In fact, the request for web site posting of product year 2000 compliance status is designed to provide an opportunity for manufacturers to communicate and better serve customers in a responsible and proactive manner and to avoid the necessity for manufacturers and vendors to field numerous calls and letters from individual organizations. The Working Group hopes that the web site will be useful to hospitals, doctors, government health facilities, as well as patients.

The FDA is planning to conduct follow-up with the manufacturers of medical devices containing microprocessors. The follow-up to manufacturers by FDA will be targeted toward the manufacturers of medical devices which are the most critical and the most likely to have year 2000 date related problems. The FDA also plans to conduct outreach to both manufacturers and the health care industry through speeches, contact with the professional associations, and the placement of articles in prominent medical and medical equipment-related journals. The first two articles, which appear in the *FDA Medical Bulletin* and the *Journal of the American Medical*

Association, appeared on June 1 and June 3 respectively. The FDA will also publish a Federal Register notice elaborating on the FDA's expectations of medical device manufacturers under current laws and regulations. Publication of this notice is expected by July 1.

Buildings Systems Working Group

The Building Systems Working Group of the CIO Council is chaired by the Public Buildings Service at GSA. Their charge is to ensure that building system equipment containing embedded microchips and software is year 2000 compliant.

The Working Group has surveyed approximately 60 percent of its building inventory and identified equipment considered susceptible to year 2000 issues. Vendors and manufacturers of

this equipment are being contacted to determine the compliance/non-compliance of the equipment and to determine any necessary remedial action. GSA has established a website (**http://y2k.lmi.org/gsa/y2kproducts**) that provides all year 2000 compliance/non-compliance information for building systems products that has been gathered thus far. While there are now over 6000 products listed on this site, only 5 percent of all products are identified as non-compliant. The list of non-compliant items includes items which will experience nuisance problems (e.g., print reports dated "1900" rather than "2000" but will not experience operational degradation. All building systems in Federal buildings considered at risk are being evaluated. At this juncture, elevators are somewhat less of a concern while security/access systems are coming under closer scrutiny.

All lessors that provide GSA space were sent letters between February and April that describe potential problems associated with building systems containing embedded microchips and requested that they certify their space as year 2000 compliant. Response rates varied greatly by region, although the typical response rate was between 50 and 70 percent. The Working Group is using the Logistics Management Institute (LMI) to follow-up with non-responsive lessors. LMI follow-up includes offers to help lessors determine compliance of their major building systems and equipment. For lessors that fail to respond to both of these letters, a risk assessment will be made for each location and a more stringent approach may be implemented if warranted (e.g., inspect leased locations to determine year 2000 compliance of major components/systems). Additionally, for all new leased space, a year 2000 clause was developed for inclusion in all Solicitations For Offers.

Finally, another website is currently under construction which will allow personnel from Federal agencies to determine the year 2000 compliance status of Federally owned and leased facilities. This site will be for Federal government use only.

IV. AGENCY SPECIFIC PROGRESS

Agency Evaluation

While many agencies appear to be making good progress in addressing this problem, some are not. In evaluating agency progress, OMB used the same basic criteria as in previous reports. For this report, the detailed criteria are:

- Status of agency assessment -- Has the agency completed its assessment of mission critical and non-mission critical systems? Has the agency completed its assessment of non-IT systems, including embedded chips? Has the agency completed its inventory of data exchanges with outside entities?

- Measurable improvement -- Is there measurable and adequate progress on renovation, validation, and implementation of computer systems, including its data exchanges? Is there progress on addressing other systems, including telecommunications systems and embedded chips?

- Schedule for completion of the phases of best practices and overall prognosis -- Has the agency adopted a realistic schedule that is consistent with the government-wide goals?

Has there been a change in the number of mission critical systems that are expected to miss the March 1999 implementation date? Does the agency have a strong management team and a credible strategy in place?

- Risk management -- Is the agency preparing a workable continuity of business plan for its core business functions? Does the agency have a deadline for when plans must be complete? Does the agency have an effective independent validation and verification program in place? Is there adequate oversight of efforts to replace non-compliant systems? Are systems previously reported behind being brought back on schedule?

- Dramatic changes in previously reported information or other indications of concern -- Have there been dramatic changes in cost, schedule, changes to the number of systems, or changes to the number of systems behind schedule? Are there any concerns with the availability of key personnel?

Tier One comprises agencies where there is insufficient evidence of adequate progress. The six agencies in the first tier are:

Department of Defense

The Department has a massive year 2000 challenge which must be accomplished on a tight schedule. Since its February report, progress has slowed. The percentage of compliant mission critical systems has only increased from 24 percent to 29 percent, the percentage of mission critical systems being renovated has only increased from 53 percent to 58 percent, while the percentage of mission critical systems that has completed implementation has increased from 9 percent to 17 percent. At this pace, the Department will not meet its goals and complete its work on time. To accelerate its work, the Department has streamlined and strengthened its oversight mechanisms, including establishing an executive program office. The Department is now treating the year 2000 problem as a high-priority national security operations and readiness issue, and the Deputy Secretary is regularly briefed on the Department's progress. Overall, the Department has implemented a coordinated management program and appears poised for improvement despite a slower rate of progress in the last quarter.

Department of Education

The Department of Education has continued to make progress in addressing its year 2000 problem. It has significantly increased staff resources committed to this task, has finalized its year 2000 work plan, and has accelerated schedules to complete all work by March 1999. The Deputy Secretary is providing strong leadership and is personally tracking progress. The Department has established a schedule for its year 2000 work, developed a detailed plan for fixing its mission-critical systems, begun renovation, and has hired a consultant to assist with key project management and technical tasks. The Department has contracted with two firms for independent verification and validation services for all mission critical systems. The Department has undertaken an extensive outreach effort to communicate with the entire education community, beyond those customers that are data exchange partners, on the year 2000 problem. However, the Department remains behind most other Federal agencies, with renovation of eight mission critical systems only 14 percent complete, and with zero percent complete on validation

and implementation. Three of these eight systems have completed 30 percent or less of the work necessary to finish the renovation phase.

Department of Energy

The Department has identified all mission-critical systems at its government and contractor sites; however, assessment of the Department's embedded chips systems and lab equipment continues. On the positive side, the percent of renovation completed has improved from 19 percent in the February report to 34 percent in the May report, and progress in the other phases is also improved. Moreover, the Department indicates that it is on schedule to complete implementation by March 1999 for all but six of its 411 systems; those six will complete implementation not later than October 1999. While there has been improvement against its internal schedule, DOE remains behind the government-wide schedule.

In response to concerns identified in the November 1997 report, the Department required all program officials to certify to the CIO that adequate progress was being made in achieving year 2000 compliance prior to receiving information technology funding. All but one program official (Environmental Management) has provided this certification, and non-Y2K information technology funds remain unavailable to that program. One site, Savannah River, has been unable to certify that adequate progress is being made in achieving Y2K compliance. (Although nuclear materials are processed at Savannah River, the systems that will miss the March 1999 deadline do not pose a health, safety, or environmental threat.) In time for the May report, the Department completed a survey of all sites regarding data exchanges. The survey is a good start on ensuring that all mission critical data exchanges are Y2K compliant. Although the Department's CIO is conducting site compliance reviews in cooperation with the Office of the Inspector General, independent verification and validation contractors are not being used by the Department for compliance reviews. Overall, the Department has improved its management coordination and has made real progress in some areas; yet until its progress comes closer to the government-wide goals, it will remain on the troubled list.

Department of Health and Human Services

The Department of Health and Human Services (HHS), as a whole, has made some progress from the last quarterly report. However, some operating divisions and individual systems continue to raise concerns. In two specific cases, HHS reports systems that are projected to achieve compliance later than the HHS-wide deadline for implementation of 12/31/98. These systems are described later under "Exceptions." In addition, the Department reevaluated which systems should be designated as "mission critical." Although this has resulted in fewer mission critical systems for some operating divisions, this has also resulted in a lower percentage of compliant mission-critical systems.

The focal point of HHS' efforts is the Health Care Financing Administration (HCFA), which has almost finished assessing the system that its external contractors, such as Medicare fiscal intermediaries and carriers, use to process Medicare claims. The success or failure of HCFA's overall Y2K effort is closely linked to the success or failure of Medicare contractor systems. It is critical that these contractors complete their assessments and begin renovations to ensure

compliance by December 31, 1998. Given the government's limited ability under current law to influence Medicare contractors, the Administration submitted a draft bill to Congress on May 19, 1998, that would increase the Secretary's contracting flexibility. The Administration encourages Congress to pass this legislation as soon as possible to ensure that HCFA has all the tools it needs to achieve full compliance. HCFA is performing on-site visits to every Medicare contractor and is using an independent verification and validation contractor to perform a risk assessment of Medicare contractors. HCFA's independent verification and validation efforts also examines all other aspects of the Y2K project. HCFA is in the early stages of developing detailed contingency plans to ensure the continuity of operations of its health programs into the next millennium. HCFA and HHS must continue closely tracking progress in this critical area.

Department of Transportation

The Department of Transportation has greatly improved its management oversight in the last quarter and appears to be devoting considerable resources to the problem; nevertheless, reported progress since the last report was minimal. With 14.9 percent of its mission critical systems validated and 7.4 percent implemented, the Department lags well behind the government-wide schedule, and its assessments of four systems had not been completed as of the May reporting date.

Although the Federal Aviation Administration (FAA) has a strong management team in place and a good organizational commitment to remediation, the FAA continues to be at significant risk. It needs to determine priorities for system conversion and replacement based on systems' mission criticality; develop plans for validating and testing all converted or replaced systems; and continue working to develop realistic contingency plans for all business lines to ensure the continuity of critical operations, including the availability of critical telecommunications support. Of particular concern is the FAA's HOST computer system, which is the backbone en route air traffic control. The FAA intends to replace the HOST computers at a pace sufficient to guarantee an adequate supply of spare parts for the remaining computers. FAA is continuing to assess the potential vulnerability of the system's micro-code and is validating the feasibility of a date roll-back as one of its potential contingency plans. The FAA's contingency planning must provide for continuity of operational capability of the National Airspace System (NAS), including scenarios when the HOST computer is not available.

The United States Coast Guard is falling behind schedule in the repair of three safety-related systems, with one, the Marine Safety Information System, having problems with old hardware and archaic software similar to that being experienced by FAA.

U.S. Agency for International Development

USAID has reported no new progress in terms of the total number of systems renovated, validated, or implemented. While USAID has made a number of management improvements, including plans to increase independent validation and verification of contractor deliverables and increasing agency-wide awareness of the year 2000 problem, these steps are too recent to have resulted in measurable progress. However, since the last report, standard code to process date/time data for USAID's mission critical systems has reached the design phase under a new

contract. In addition, a new prime contract for year 2000 project management was awarded May 29, 1998. Both actions are consistent with best practice recommendations of independent studies.

Other Agencies

For agencies in the second tier, OMB sees evidence of progress, but also has concerns. Some of these agencies have strong Y2K programs and OMB expects them to continue to improve. The nine agencies in the second tier are: the Departments of Agriculture, Commerce, Housing and Urban Development, Interior, Justice, Labor, State, and Treasury, and the Office of Personnel Management. A summary of progress and concerns for these agencies appears below.

Tier 2 Agencies -- Progress, But Concerns

Agency	Progress	Concerns
USDA	Progress in renovation, validation, and implementation of systems; actively working on data exchange issues with states. States report that all Food Stamp systems will be Y2K compliant by 12/31/99.	Embedded systems, facilities, and telecommunications issues are not yet resolved; contingency planning and proactive independent validation and verification efforts have not yet been established. Based on current information from States, all but two State WIC systems will be compliant by 12/31/99. New York plans to use its existing manual WIC system until 8/1/00, at which time its system will be compliant. Complete information from Ohio on telecommunications progress is not available so USDA is unable to determine whether the State will be fully compliant by 12/31/99. (USDA will work to receive more information from Ohio on the status of its WIC system.)
DOC	Overall, making progress. Undertaking IV&V and contingency planning.	PTO, OS/ADMIN, and ITA lag government-wide goals; Department must find a CIO.
HUD	Good management team with some improvement in the number of systems validated. Chief Information Officer recently hired. Actively working on embedded chip, telecommunications, and data exchange issues.	Need greater progress in renovating mission-critical systems. Independent validation and verification efforts have not been formally established although the Inspector General is examining HUD efforts.
DOI	Strong management team with good progress on data exchange issues. Good progress on embedded technology and telecommunications issues.	Limited progress in renovation, validation, and implementation.
DOJ	Progress is being shown and independent reviews continue to demonstrate value.	Pace of renovation, validation and implementation must improve if Department and government-wide goals are to be met.

DOL	Top priority of the Secretary; significant progress on renovation; good progress on data exchanges, especially with State unemployment systems.	Despite progress, still lags behind the government-wide goals. Must complete assessment of embedded chips.
State	Permanent CIO in place; actively assessing and upgrading non-IT systems; taking steps to improve IV&V process.	Some progress, but evidence of schedule slippage; consolidation of some systems is a complicating factor; progress needs to be accelerated on overseas financial systems.
Treasury	Strong management team; leader in work on embedded systems, buildings, and telecommunications. Actively working on data exchange issues with the States. Good progress in Customs and IRS.	Greater progress is needed in FMS, particularly with respect to the Government On-line Accounting Link System (GOALS), which supports 18 separate financial management applications used by the agencies. The GOALS system has yet to be fully assessed for year 2000 conversion; if the system is not made compliant, the accuracy of government-wide payments, collections, debt management, and accounting information could be compromised.
OPM	Strong continued senior management involvement has resulted in a credible strategy and progress; contingency planning is much improved with well defined goals and milestones.	Rate of validation and implementation must increase in order to meet government-wide goals.

The remaining nine agencies in Tier 3 appear to be making satisfactory progress. These nine agencies are the Environmental Protection Agency, the National Aeronautics and Space Administration, the Social Security Administration, the Federal Emergency Management Agency, the General Services Administration, the National Science Foundation, the Nuclear Regulatory Commission, the Small Business Administration, and the Department of Veterans Affairs.

Status of Small and Independent Agencies

Based on the results of a one-time request for reports from 41 small and independent agencies, OMB is asking several agencies to report again on their progress on August 15, 1998. OMB is asking for these reports in the next quarter because of the importance of these agencies' missions, because of concerns about the rate of progress, or because their initial reports did not provide sufficient detail. Those agencies are: the Federal Communications Commission, the Federal Housing Finance Board, the National Archives and Records Administration, the National Labor Relations Board, the Office of Administration in the Executive Office of the President, the Peace Corps, the Tennessee Valley Authority, the U.S. Postal Service, and the U.S. Trade Representative in the Executive Office of the President.

A summary of their progress will be included in the next quarterly report to Congress. OMB is asking all small and independent agencies to report again on May 15, 1999. OMB will continue to work with all small and independent agencies, as appropriate, to ensure that they are prepared for the year 2000.

Summary of Small and Independent Agency Reports

Agency	Progress	Concerns
Armed Forces Retirement Home Board	Agency has completed assessment, including non-IT systems; non-mission critical systems are compliant.	Although the agency has adopted government-wide milestones for its two systems under repair, there has been no progress on renovation.
Commodities Futures Trading Commission	Good progress on all phases. Good outreach.	Weak contingency plan.
Consumer Product Safety Commission	Satisfactory progress overall; good outreach efforts.	No contingency plan; no independent validation and verification.
Corporation for National and Community Services	Sound management; progress on certification and IV&V.	Assessment incomplete; accounting system will be finished late.
Defense Nuclear Facilities Safety Board	Small number of office systems are on schedule; verification in progress.	None.
Equal Employment Opportunity Commission	Good progress on all phases, including non-IT systems.	Need contingency plan; need independent verification and validation.
Export-Import Bank of the United States	Excellent progress on phases; good management oversight; using contingency planning and IV&V.	None.
Farm Credit Administration	Good progress on phases.	Weak contingency planning.
Federal Communications Commission	Has recently improved management oversight; good outreach efforts.	Renovation to be completed 3/99; no contingency plan; no IV&V.
Federal Deposit Insurance Corporation	Good progress on phases.	Weak contingency plan.

Federal Elections Commission		Progress behind schedule. No contingency plan; no IV&V.
Federal Energy Regulatory Commission	Progress satisfactory.	No IV&V. Needs to improve outreach efforts.
Federal Home Loan Mortgage Corporation		Report pending.
Federal Housing Finance Board	Satisfactory progress on phases.	No IV&V; weak contingency plan.
Federal Reserve System	Excellent progress on all phases; excellent outreach.	None.
Federal Retirement Thrift Investment Board	Working closely with National Finance Center, which has responsibility for major systems. Most other systems consist of office automation.	Good progress on non-IT systems and data exchanges.
Federal Trade Commission	Good progress on all phases. Good outreach efforts.	None.
JFK Center for the Performing Arts	States that all systems are compliant.	No mention of contingency plan; no IV&V.
Legal Services Corporation		Report pending.
National Archives and Records Administration	Good management team; working with DoD & OPM on personnel records; working with GPO on data exchanges with the Office of the Federal Register.	Assessment of mission-critical systems is only 75% complete; contingency planning just beginning.
National Credit Union Administration	Excellent progress on phases.	Weak contingency plan.
National Gallery of Art	Progress slightly behind schedule.	No IV&V; no contingency plan; need to improve outreach.
National Labor Relations Board	Completed assessment of non-IT systems; data exchanges.	Three systems will miss target; no IV&V; no outreach.
National Mediation Board	On schedule for phases.	Needs IV&V.
National Transportation Safety Board		Submitted response to GAO survey in lieu of report.

Neighborhood Reinvestment Corporation	Good progress; independent audit planned.	No mention of continuity of business plan; could improve outreach.
Office of Administration, Executive Office of the President	Senior management working aggressively to continue progress and enhance communications.	Need additional contingency plans; progress dependent on FY99 appropriations.
Overseas Private Investment Corporation	Putting in place an IV&V contractor.	No continuity of business plan.
Peace Corps	Started risk management steps.	Complications as a result of international operations. Risk associated with Financial Management System. Assessment incomplete. Report lacks detail.
Pension Benefit Guaranty Corporation	Explicit management strategy; has hired IV&V contractors.	Behind on phases.
Railroad Retirement Board	Good progress.	May need to work more on contingency plans.
Securities and Exchange Commission	Moderate progress, excellent outreach.	Pace of renovation needs to quicken.
Selective Service System	Good progress on internal systems; relies on larger agencies for some systems.	May need to work more on contingency plan.
Smithsonian Institution	Good management of the problem; provided detailed status of systems.	No IV&V; no contingency plan; no outreach.
Tennessee Valley Authority	Good management tracking system. Good progress on renovation. Contingency planning in place.	Assessment incomplete. A number of systems will miss March 1999 target.
U.S. Arms Control and Disarmament Agency	Good progress; major thrust is replacement of COTS.	Planning should include continuity of business plan.
U.S. Enrichment Corporation		Report pending.
U.S. Information Agency	Good management. Good progress. Assisting overseas offices.	Status complicated by uncertainty of merger with State Department.
U.S. International Trade Commission	IV&V scheduled for summer; all systems to be implemented by fall.	Minimal attention to non-mission critical data exchanges; no contingency planning.

U.S. Postal Service	Full senior management involvement. Independent verification process implemented. Critical systems targeted for implementation by 9/98.	Better crosswalk needed between USPS program measures and government-wide benchmarks. Greater detail needed on certain key items such as contingency planning and IV&V.
U.S. Trade Representative Executive, Office of the President		Although systems are limited to office automation/databases, progress is modest. No outreach; no independent verification and validation. May miss March 1999 date.

Exception Reports

In addition, agencies are required to report on any mission-critical systems for which year 2000 renovation or replacements have fallen more than two months behind schedule. In addition, agencies are required to report on any system that will not meet the March 1999 target for completion of implementation. The following agencies report specific systems that are behind schedule or that will miss the March 1999 target.

Department of Agriculture

Two agencies reported slippage in dates beyond March 1999, the Agricultural Marketing Service (AMS) and Departmental Administration (DA). The Agricultural Marketing Service Financial Information System is being redeveloped using year 2000 compliant hardware and software. Since the submission of the May report, approval for support services for year 2000 compliance has been granted. Two additional AMS systems are under development, therefore the approval process for these systems required additional steps. The AMS Field Infrastructure System has received approval to proceed based on the condition that the newly developed system would be validated and verified as year 2000 compliant through independent means. Milestones for this system are being developed. The AMS Data Repository has received approval to proceed based on the condition that the newly developed system would be validated and verified as year 2000 compliant through independent means. Milestones for this system are being developed.

The Departmental Administration Systems are no longer an exception. The Department will make the current systems that were scheduled for replacement compliant by January 1999.

Department of Defense

The Department of Defense reported that nine mission critical systems have fallen behind schedule: one Army system, two Air Force systems, two systems at the Defense Finance and Accounting Service, one system at the Defense Logistics Agency, and three systems at the National Security Agency. Of those nine, one was previously reported behind schedule: the Air Force's MARK V system, which remains behind schedule due to a COTS vendor delivery problem. The Department also reported 34 mission critical systems being repaired or replaced that had completion dates after March 1999: seven Army systems, eighteen Navy systems, two Air Force systems, one system at the Defense Intelligence Agency, one system at the Defense Information Systems Agency, one system at the Defense Logistics Agency, one system at the National Imagery and Mapping Agency, two systems at the Office of the Secretary of Defense, and one system at the On-site Inspection Agency. The DOD CIO is establishing a special review board to focus leadership actions on mission critical systems such as these that are not meeting the DOD required dates for implementation.

Department of Health and Human Services

The Health Care Financing Administration's Financial Accounting Systems (FACS) is behind schedule as a result of a delay in validation. Validation will commence, contingent upon the installation of a year 2000 compliant version of the commercial, off-the-shelf database system, known as IDMS, and the availability of future date testing tools. These problems are being addressed, and HCFA anticipates that FACS will be in the validation phase soon.

HHS reported two other systems that are projected to achieve compliance later than the HHS-wide deadline of December 31, 1998. The first is the system called IMPACT which is used to process personnel actions Department-wide. It was to be replaced by a new system,

FED HR-21, which is already year 2000 compliant. However, FED HR-21 will not be implemented until late 1999. As a contingency plan, PSC is making the legacy system compliant by February 1999. The second system reported late is the Health Resources and Services Administration's contractor-operated National Organ Transplant System, which is not projected to be compliant until a new replacement system is implemented in July, 1999.

Department of Interior

The Supervisory Control and Data Acquisition (SCADA) System at the Bureau of Reclamation is used to manage the Glen Canyon Powerplant. Preliminary estimates to renovate the system were significantly higher than anticipated, so a statement of work was developed requiring a three-phase effort to reassess costs, make repairs, and test the system for year 2000 compliance. An estimate of the costs for renovation is anticipated by the Department in May 1998. In the meantime, a waiver to the Dual-Compensation Act has been granted for 10 Powerplant Operators. This is part of the bureau's contingency planning so that all dams can be operated in a manual mode. The Bureau's estimate is that SCADA's renovation, testing, and implementation will be completed before January 1999.

State Department

The Supply Automated Receiving System (SARS), Enhanced Automated Procurement System (EAPCS), Mail Sorting Equipment Network (MSE), and the Electronic Receipts System (ERS) within the Bureau of Administration are planned to be on a reestablished schedule by June. Early delays involved evaluation of commercial off-the-shelf system alternatives, funding requests and contract modifications. Virtually all of these issues have been resolved with only the contract modifications awaiting finalization in June. Renovation of the SARS and the Medical Archiving Retrieval System (MARS) within the Bureau of Personnel will extend beyond the September 1998 renovation milestone, but other applications (including EAPCS, MSE, and ERS) will meet this deadline. SARS will be renovated by January 1999, and the MARS will be renovated by November 1998.

Department of Transportation

The United States Coast Guard reported that three of its mission critical systems have fallen behind the OMB target dates for work in the remaining phases. Two of these systems are projected to miss interim target dates, but are still on track to comply with the March 1999 implementation phase deadline. The third system, the Marine Safety Information System (MSIS), is experiencing difficulties achieving its milestone targets largely due to the complexity of custom-built code, usage of what are now archaic programming languages, and some hardware components that are unique to the MSIS. The MSIS technical staff is training additional people to work on the software issues and at this time, is projecting a year 2000 solution to be tested and implemented by September 1999.

Treasury Department

The Government On-Line Accounting Link System (GOALS) at the Financial Management Service is comprised of 18 application subsystems that collect, edit, and telecommunicate data. GOALS-II was initiated in September 1995 to replace GOALS-I. Based on the analysis of the current development schedule, not all of the 18 subsystems of GOALS-II will be completed and implemented prior to the year 2000. Consequently, FMS has determined that it must renovate the existing GOALS-I system to ensure year 2000 compliance. FMS is working with the program areas responsible for each of the subsystems to develop contingency plans. These plans are scheduled for completion in June 1998.

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Key Federal Web Sites on the Year 2000

Sponsor	URL
FDA site on biomedical devices	www.fda.gov/cdrh/yr2000
Federal CIO Council	http://cio.gov
Small Businesses Administration	www.sba.gov/y2k
GSA site on compliant commercial products	http://y2k.policyworks.gov/
GSA site on telecommunications equipment	http://y2k.fts.gsa.gov/
GSA site on buildings and facilities	http://globe.lmi.org/lmi_pbs/y2kproducts/

TABLE 1

Progress and Plans for Year 2000 Compliance of Mission Critical Systems

	Assessment Date	Renovation Date	Validation Date	Implementation Date
Gov't-wide Goal	6/97	9/98	1/99	3/99
Agriculture	11/97	9/98	1/99	3/99
Commerce	3/97	9/98	1/99	3/99
Defense	12/97	9/98	1/99	3/99
Education	11/97	9/98	1/99	3/99
Energy	1/97	9/98	2/99	3/99
HHS	6/98	9/98	12/98	7/99
HUD	6/97	9/98	1/99	3/99
Interior	3/97	9/98	1/99	3/99
Justice	6/97	7/98	10/98	1/99
Labor	6/97	9/98	1/99	3/99
State	6/97	9/98	1/99	3/99
Transportation	8/97	9/98	1/99	3/99
Treasury	7/97	10/98	12/98	12/98
VA	1/98	9/98	1/99	3/99
AID	11/97	6/99	8/99	9/99
EPA	6/97	9/98	1/99	3/99
FEMA	6/97	9/98	1/99	3/99
GSA	6/97	7/98	9/98	1/99
NASA	8/97	9/98	1/99	3/99
NRC	9/97	9/98	1/99	3/99
NSF	6/97	9/98	1/99	3/99
OPM	6/97	9/98	11/98	11/98
SBA	5/97	8/98	9/98	9/98
SSA	5/96	9/98	12/98	1/99

Table 2

Mission Critical Systems

	Total Number	Number Compliant	Percent of Total	Number Being Replaced	Number Still Being Repaired	Number Being Retired
Agriculture	1080	430	40%	271	317	62
Commerce	472	343	73%	57	72	0
Defense	2803	812	29%	255	1566	170
Education	14	4	29%	2	8	0
Energy	411	149	36%	131	119	12
HHS	289	98	34%	62	129	0
HUD	63	31	49%	11	21	0
Interior	91	37	41%	11	43	0
Justice	197	57	29%	10	130	0
Labor	61	21	34%	18	22	0
State	64	24	38%	27	13	0
Transportation	630	237	38%	69	297	27
Treasury	323	125	39%	46	150	2
VA	11	2	18%	0	9	0
AID	7	1	14%	2	4	0
EPA	61	40	66%	5	14	2
FEMA	47	29	62%	11	7	0
GSA	58	39	67%	10	9	0
NASA	158	79	50%	6	69	4
NRC	7	2	29%	2	3	0
NSF	21	10	48%	1	6	4
OPM	118	40	34%	12	64	2
SBA	42	19	45%	0	23	0
SSA	308	284	92%	1	22	1
TOTAL	7336	2913	40%	1020	3117	286

TABLE 3

Mission Critical Systems Repaired and Being Repaired

	Number of Systems	Assessment Percent Complete	Renovation Percent Complete	Validation Percent Complete	Implementation Percent Complete
Agriculture	484	100%	56%	32%	31%
Commerce	148	100%	67%	53%	51%
Defense	1898	100%	58%	24%	17%
Education	8	100%	13%	0%	0%
Energy	139	100%	34%	25%	23%
HHS	232	92%	29%	17%	12%
HUD	35	100%	51%	40%	31%
Interior	67	100%	52%	33%	27%
Justice	164	98%	59%	32%	29%
Labor	27	100%	25%	21%	21%
State	22	100%	38%	23%	0%
Transportation	323	99%	25%	15%	7%
Treasury	248	98%	55%	40%	38%
VA	10	100%	83%	63%	49%
AID	4	100%	14%	14%	14%
EPA	30	100%	77%	60%	53%
FEMA	14	100%	57%	57%	50%
GSA	20	100%	71%	66%	55%
NASA	101	100%	59%	39%	32%
NRC	4	100%	25%	25%	25%
NSF	12	100%	83%	67%	50%
OPM	86	100%	35%	33%	33%
SBA	30	100%	52%	52%	52%
SSA	289	100%	92%	89%	86%
TOTAL	4395	99%	55%	32%	27%

TABLE 4

AGENCY YEAR 2000 COST ESTIMATES
Fiscal Years 1996-2000
(Dollars in Millions, by Fiscal Year)

	1996	1997	1998	1999	2000	TOTAL
Agriculture	4.2	20.9	62.0	29.4	7.5	124.0
Commerce	2.6	12.4	33.5	28.3	6.5	83.3
Defense	20.7	444.5	1045.1	372.9	45.8	1929.0
Education	0.1	1.7	23.5	7.4	1.5	34.2
Energy	1.0	20.0	94.3	86.1	24.8	226.2
HHS	7.1	29.1	137.9	112.8	3.0	289.9
HUD	0.7	6.2	19.4	15.0	6.2	47.5
Interior	0.2	2.8	10.6	21.1	0.7	35.4
Justice	1.7	6.2	18.0	5.3	0.5	31.7
Labor	1.7	5.4	11.6	6.8	1.4	26.9
State	0.5	49.2	62.0	38.0	3.1	152.8
Transportation	0.4	12.4	96.0	64.3	9.4	182.5
Treasury	8.4	210.9	681.6	368.6	181.0	1450.5
VA	4.0	22.0	69.0	96.0	5.0	196.0
AID	1.1	3.0	18.3	13.7	3.2	39.3
EPA	0.8	5.3	13.0	6.1	1.0	26.2
FEMA	3.8	4.4	3.0	3.2	1.2	15.6
GSA	0.2	0.8	4.7	0.7	0.0	6.4
NASA	0.1	6.4	27.0	11.2	0.8	45.5
NRC	0.0	2.4	4.0	3.9	0.6	10.9
NSF	0.0	0.5	0.8	0.1	0.0	1.4
OPM	1.7	2.1	1.5	0.8	0.3	6.4
SBA	1.7	3.3	2.7	1.9	0.0	9.7
SSA	2.2	13.3	12.2	5.0	0.5	33.2
TOTAL	65.0	885.2	2451.7	1298.5	304.1	5004.5

Notes:
These estimates do not include the Federal share of the costs for State information systems that support Federal programs. For example, the Agriculture total does not include the potential 50 percent in Federal matching funds

provided to States by Food and Consumer Services to correct their Year 2000 problems. Similarly, the HHS total does not include the Medicaid baseline costs or the Federal share of state systems. And, while Labor's FY 1998 appropriation includes $200 million for States to correct Year 2000 problems in State unemployment insurance systems, that amount is not included in this estimate.